## *ABSTRACT*

Hydroponics is a method of growing vegetables without using soil as a medium for growing. Various innovations that are currently developing are planting based on artificial lighting or artificial lighting. With this innovation, vegetable planting can be done indoors without worrying about unpredictable weather changes. More precisely because of the presence of Photosynthetically Active Radiation (PAR), which is the wavelength of radiation used in the photosynthesis process (wavelength between 380 and 720 nm). Sunlight is the main determinant of global photosynthesis, so there is a close quantitative relationship between solar absorption and world biomass production. With observations made on mustard greens with 2 different treatments to see the possibility that occurs in the acceleration of the seedling age of mustard greens. With the right selection of LEDs, the mustard greens will grow and photosynthesize well. Based on growth observations, it was found that the growth of mustard greens using artificial lighting and fertilizer without artificial and fertilizer got a difference of 10.5 mm. From these results, the impact of artificial and fertilizer is very influential on the acceleration of the growth of mustard greens.



**Keywords :** ***artificial lighting, Hydroponic, LED***